

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended): An electric power steering apparatus for assisting steering of a steering shaft by the rotation power of an electric motor through a reducer based on the steering torque detected by a torque sensor, wherein:

a rotary potentiometer is disposed in the reducer, and

a portion of a swing arm of the potentiometer is engaged with a swirl groove formed on the side of a worm wheel in the reducer as well as the swing arm is swingingly rotated according to the rotation of the worm wheel to thereby detect the rotation angle of the steering shaft,

the swirl groove is formed to detect the three revolutions of the steering wheel in correspondence to the range from lock to lock of a steering wheel, and

the rotation angle is detected by an absolute angle in the entire range from lock to lock of the steering wheel.

Claim 2 (original): The electric power steering apparatus according to claim 1, wherein the worm wheel comprises a metal core portion and a resin portion with a gear formed on the outer peripheral surface thereof, and the swirl groove is formed to the resin portion.

Claim 3 (original): The electric power steering apparatus according to claim 2, wherein the swirl groove is molded integrally with the resin portion at the same time.

Claim 4 (original): The electric power steering apparatus according to claim 1, wherein the worm wheel comprises a metal core portion and a resin portion with a gear formed on the outer peripheral surface thereof, and the swirl groove is formed to the metal core portion.

Claim 5 (original): The electric power steering apparatus according to claim 4, wherein the swirl groove is formed integrally with the metal core portion.

Claim 6 (original): The electric power steering apparatus according to claim 1, wherein the swirl groove is formed to a to-be-detected member separated from the worm wheel, and the to-be-detected member is attached to the side of the worm wheel.